

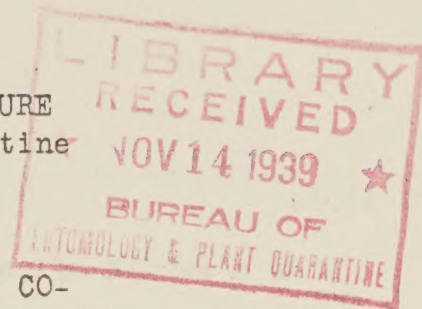
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UNITED STATES DEPARTMENT OF AGRICULTURE  
Bureau of Entomology and Plant Quarantine  
Washington, D. C.



OUTLINE OF THE PLAN OF OPERATION FOR CO-  
OPERATIVE CONTROL OF THE MORMON CRICKET, 1939

Purpose.--To protect crops from destruction in the 11 infested States in areas where the Bureau of Entomology, local communities, counties, or States consider the problem of sufficient importance for them to participate in cooperative control.

Cooperating Parties.--The Bureau of Entomology and Plant Quarantine, and other Federal agencies, States, counties, or communities in the Mormon cricket-infested areas.

Legal Authority.--An act authorizing the United States Department of Agriculture to cooperate with States in the control of incipient and emergency outbreaks of insect pests, including Mormon crickets, within the limitations of appropriations thereunder; State laws and other enabling provisions pertaining to the control of injurious insects. All control operations will be conducted under State authority.

Statement of Problem.--The program of cooperative control of Mormon crickets in 1938 was aimed primarily at the protection of agricultural crops and comprised control activities on approximately 2% of the area known to be infested. The area infested in 1938 was reported as being 14,165,000 acres and, as determined by the fall survey, the area infested in the spring of 1939 will total 18,919,000 acres, of which 5,509,000 acres are moderately or heavily infested. The apparent increase in size of the infested area this year is due to inadequate survey or the lack of survey in 1937 in certain States or areas, especially in Nebraska, North Dakota, and South Dakota. No general, uniform survey of the entire infested area has been made prior to the fall



of 1938.

As a result of control operations in 1937 and 1938, Mormon cricket populations have been markedly reduced in several areas, making it possible to obtain a clean-up or near clean-up in those areas in 1939 and practicable to strive toward that end. In several areas, it will be efficient and economical to destroy cricket bands in or near breeding areas before they have opportunity to migrate to and disseminate over crop lands. In these specific areas, which are known, major emphasis should be given to wiping out these bands early in the season, after which these areas will be dropped from the 1939 control program except as small outbreaks might require some control later in the season.

In certain range areas where destruction of range plants by Mormon crickets is very severe and where these range areas are breeding grounds for heavy populations which it is believed will migrate later to crop lands, it is deemed advisable to designate specific areas where control should be done early in the season with the view of cleaning up an entire area to eliminate it from the control program later in the season or during succeeding years. In the event of control programs in later years, this cleaned area can be kept so by a minimum amount of control and its size increased as new clean-up areas are added to it.

Analyzing the results of control operations in all States during 1938, it is evident that the greatest amount of clean-up work was accomplished where a well-planned dusting program was executed, either alone or supplemented by metal or oil-on-water barriers, and that the cost of control was materially less where power dusters were used than where dusting was done by hand labor. Barrier control, especially when conducted by volunteer workers, tended to



lessen efforts at control by dusting. For these reasons, the use of barriers, will be considered in cooperative activity only as supplemental to an assured, adequate dusting program. Furthermore, the Bureau will insist that power dusting displace hand-dusting in all areas to the fullest extent possible or practicable.

Policy and Procedure.---Any change in policy or procedure will be made only after such change is considered and approved jointly by the State Leaders and the Bureau of Entomology and Plant Quarantine. The general policy will be to encourage volunteer labor and individual contributions to the fullest extent possible.

Control Methods.---Control methods to be employed will be those approved jointly by the Bureau of Entomology and Plant Quarantine and the State Leaders.

Work Programs to be Approved.---In view of these considerations, there follows a proposed outline of the 1939 Mormon cricket control program involving expenditure of Federal funds appropriated for the control of incipient or emergency outbreaks of insect pests and plant diseases, including Mormon crickets, under conditions and means determined by the Secretary of Agriculture as most advantageous to the Federal government:

1. Primary emphasis of Federal cooperative activities will be directed at agricultural crop protection. Control in areas of isolated farm land or of light infestations will be left to the attention of individuals or local communities to whom dusting machines, dusting materials, and instructions on how to use them may be issued when conditions appear to warrant, and to whom supervision will be provided insofar as regular supervisors\* may be available.

2. In certain specific areas where a clean-up is deemed feasible and economical, areas for clean-up which are not

\*When the term "supervisor" is used in this outline, it is with reference to a man paid full time by the Federal government.



in or adjacent to crop areas are to be decided upon jointly by the State Leader and the Bureau of Entomology and Plant Quarantine and included in the work program prepared before control work is undertaken.

3. Breeding areas on range land where extensive populations are seriously destroying range land and are expected to migrate to crop lands later, which are designated for clean-up, are to be decided upon jointly by the State Leader and the Bureau of Entomology and Plant Quarantine and included in the work program prepared before control work is undertaken. Complete cooperation of the State, counties, and other agencies interested in such areas will have to be assured before areas may be designated.

4. A work program shall be prepared and approved for each county or area before control work may be undertaken there, and it shall contain specifically complete information under Topics 2 and 3 above. It shall be prepared and approved jointly by the State Leader and the Bureau of Entomology and Plant Quarantine with the assistance of such local agencies as may be expected to be interested in or to assist in control operations.

How States May Secure Federal Aid.---Federal participation will be provided in States and communities in which a satisfactory program is agreed to jointly by State and Federal agencies. Contributions of States or communities may be in the form of dusting machinery, dusting materials, supplies, barrier, oil, labor, or transportation in individual communities as necessary, but the general policy shall be for the Bureau of Entomology and Plant Quarantine to furnish expendible items, and other cooperating agencies to furnish local transportation and equipment.

States desiring Federal assistance will provide:

1. The technical and advisory assistance of an entomologist or pest control official of the State, satisfactory to the State and to the Bureau of Entomology and Plant Quarantine, who will act as State Leader.

2. Necessary transportation of laborers and living quarters when camps are necessary, and the local hauling of materials and equipment to be used in the county or community.



3. Adequate local storage and mixing plants.
4. All new dusting machinery including necessary repairs and replacements and barrier materials which may be needed.
5. Horse-drawn or motor-drawn vehicles for the operation of power dusters in the field.

Responsibility of Cooperating Agencies.--

Bureau of Entomology and Plant Quarantine:

The Bureau of Entomology and Plant Quarantine shall be responsible for the administration and supervision of all funds specifically appropriated or allotted to the United States Department of Agriculture for Mormon cricket control and jointly responsible with State and local agencies for the planning of and the efficient carrying out of control operations. It will make recommendations and give technical advice to all agencies of the Department assisting in the cooperative effort to control these pests. It will consider and recommend action to be taken by any other agency of the Federal government seeking counsel from the Department. It shall act for the Secretary of Agriculture on all Federal matters pertaining to Mormon cricket control.

The Bureau of Entomology and Plant Quarantine will maintain field headquarters in Salt Lake City, Utah, and will employ a project leader who will be responsible to the Bureau for the supervision and administration of the project and a supervisory staff, who, under the project leader's supervision and in conjunction with State, county, or community, will plan, supervise, and direct the work of laborers in distributing poison dust, placing barriers,



and carrying out other protective measures. In the interest of closer coordination and the elimination of unnecessary steps in the transmittal of business to and from the regional office to the field, general supervisors will not be stationed in the field, but will work directly out of the regional office. In this way, the State supervisor will be directly responsible for the success of the control program in the State under his jurisdiction, and he will spend the major part of his time in actual field work, directing and coordinating the work of county or local supervisors.

Local supervisors will be employed who may be required to supervise the control work in two or more counties. In counties having extensive control programs, a local supervisor will be assigned to the county by the Bureau.

In control operations, the Bureau of Entomology and Plant Quarantine proposes to furnish (1) supervision; (2) labor for mixing poison dust, and erecting, maintaining, and dismantling, cleaning and storing Federally-owned metal barrier, excepting in cases where it may be more advantageous for States, counties, or communities to furnish labor; (3) central storage warehouses where necessary; (4) warehouse foreman at central warehouses and at principal substation distribution points; (5) oil for barrier work; (6) dust materials or mixed dust; and (7) power duster operators for power dusters furnished by States, counties, or individuals, but assigned to Federal supervisors for use on a community basis.



States:-- .

The closest possible cooperation will be maintained with State and county crop pest control agencies, and the fullest utilization made of them and their trained personnel. It is not expected that entomologists connected with experiment stations, the Extension Service, the State colleges, or the State regulatory offices will be able to devote the necessary full time to the actual supervision of the control program, which may be required, but they will be expected to collaborate with the Bureau of Entomology and Plant Quarantine and with the Mormon cricket control project leader in jointly planning and executing control operations in their respective States, and they will be consulted on policy and procedure and provided with information on the progress of the work.

In control operations, it is proposed that each county or State, including the contributions of individuals and other agencies, shall furnish (1) all new dusting machinery; (2) repair or replace all dusting equipment they now own; (3) labor for operating hand dust guns in areas where hand dusting is necessary to supplement a power dusting program, except that in control work on breeding grounds in range areas the Bureau will provide the labor for such operations conditioned on States or other cooperating agencies furnishing the transportation; (4) all new barrier materials; (5) all trailers or trucks, either horse-drawn or motorized, for transporting power dusters; (6) all local storage and transportation; (7) camps when necessary and the States, counties, and other cooperating agencies will assume the responsibility of establishing, equipping, maintaining, and operating them, as well as of transporting all camp supplies and equipment; (8) Federal inspectors with State credentials.

LEE A. STRONG

Chief, Bureau of Entomology and Plant Quarantine.

